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THE
SYMPTOMS AND TREATMENT
OF
POISONING.

BY

CHARLES H. BEDFORD, M.D., D.Sc.,

MAJOR, INDIAN MEDICAL SERVICE;
CHEMICAL EXAMINER TO GOVERNMENT, BENGAL.

Published by Authority.



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UNKNOWN POISONS.

*WHEN the nature of the Poison
is not known, see page 48
(UNKNOWN POISONS, TREATMENT
OF).*

CAUTION.

*DO NOT FORGET to keep stomach-
washings or vomit, etc., for
Chemical Analysis where such may
be likely to be required later.*

NOTES.

N^O ATTEMPT has been made to make this list of Poisons exhaustive, and only those have been mentioned which experience and enquiry have led the Author to think proper to include in an "emergency-list" of this kind. Again, the remedies recommended are such as can be obtained in almost every Dispensary, and such as can be promptly and easily applied in emergency cases.

THIS BOOK should not be filed (as, when an emergency occurs, valuable time would be lost in searching it out for reference), but

should be attached to the wall of the Office or Dispensary. It can then readily be taken down for reference when emergency requires.

HYPODERMIC ADMINISTRATION has, where possible, been suggested as being more rapid and efficient. *Where the hypodermic syringe is out of order, use the alternative remedy given. (If no alternative is given, it means that the remedy would be of little or no use if given by the mouth.)*

D O S A G E.

OF COURSE, all doses of remedies mentioned are the doses for adults.

HOW TO USE THE STOMACH-TUBE.*

Red rubber tubing 6 feet long and $\frac{1}{2}$ inch diameter.

A gag may be required.

1. Smear the end of the tube which is to be passed into the stomach. (Butter, glycerine, olive oil or vaseline are good for this purpose.)
2. Tell patient to hold his head well back.
3. Pass the end of the tube between the fauces, and gently pass it on, telling the patient to "swallow it."
4. When the end of the tube is in the gullet, bend the patient's head slightly forward.
5. Push on the tube,—lifting it slightly upwards while pushing it forward—till it reaches the stomach.

When the tube is in the stomach—

1. Place the funnel in its end, holding the funnel high above the patient's head; pour water down it.
2. When the stomach is filled, squeeze the part of the tube between the mouth and funnel so as to close the tube.
Then lower this end into a basin placed opposite the patient's hips. The stomach contents will then flow out by Syphon action.
3. Repeat the process until the water coming away is quite clear and free from smell.

After the stomach has been well washed out—

4. Administer any remedy,—such as coffee, demulcents, tannic acid solution, etc.—by means of the stomach-tube.

* For young children, a red rubber male catheter (with attached tubing) should be used instead of the stomach-tube, which is too big for them.

ERRATUM.

MAJOR BEDFORD'S book on the symptoms and treatment of Poisoning :—

- (1) Page 14, line 18, from foot of page—*strike out* “seven minims of.”
- (2) Page 38, last line—for “Digitalis” *read* “Oleanders.”

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THE
SYMPTOMS AND TREATMENT
OF
POISONING.

ACID, ACETIC.

SYMPTOMS.

1. Mouth and tongue bleached. Breath smells of vinegar.
2. Severe pain from mouth to stomach.
3. Vomiting. Vomit smells of vinegar.
4. Convulsions.
5. May have dyspnoea from laryngeal irritation.

TREATMENT.

Do NOT use stomach-pump or tube.

1. Give soap and water, chalk or lime water; or magnesia in warm water *very freely*.
2. Give, later, much milk or olive oil ($\frac{1}{4}$ pint to $\frac{1}{2}$ pint water).
3. Inject 8 minims of (B.P.) injectio morphin. hypodermic; or $\frac{1}{2}$ drachm of laudanum by mouth or 40 minims by the bowel.

ACIDS, MINERAL (Nitric, Sulphuric, Hydrochloric, etc.).

SYMPTOMS.

1. Burning pain in throat, gullet, and stomach.
 2. Violent vomiting, later of dark fluid (altered blood) and mucus.
 3. Mucous membrane of mouth and tongue white, and great difficulty in speaking or swallowing.
 4. Severe shock-symptoms: cold, clammy skin; weak, small, rapid, and irregular pulse, etc.
- May have violent spasms or insensibility from intensity of pain. (Purging rare. Urine may be suppressed.)

TREATMENT.

1. *Do NOT employ stomach-tube.*
2. Give magnesia or chalk in water **FREELY**; or soap and water.
3. Milk, olive or other oil, white of egg with water.
4. Inject morphine [8 minims of (B.P.) injectio morph. hypod.]; or 1 drachm of laudanum by the bowel.
5. Later, brandy (1 drachm) hypodermically; or one ounce in water by the bowel.

ACID, PYROGALLIC. (See OXALIC ACID.)

ACID, TARTARIC.

SYMPTOMS.

Great pain in belly. Convulsions and collapse.

TREATMENT.

1. Lime-water freely or chalk and water. *Do NOT give salts of sodium, potassium, or ammonium.*

ACONITE. *Bish, Bikh* (Hind.); *Vashnavi* (Tamil); *Bachnab* (Bomb.).

SYMPTOMS.

1. Tingling of mouth. Salivation. Tight feeling in throat. Then intense burning pain from mouth to stomach.
2. Tingling and numbness spreads over body.
3. Vomiting and often purging.
4. Pulse—slow, weak, irregular, later imperceptible.
5. Breathing—faint, laboured, irregular.
6. GREAT PROSTRATION and collapse, skin cold and moist.
7. Pupils often at first contracted, later dilated.
8. Generally conscious till death.

TREATMENT.

1. STOMACH-TUBE; or *one drachm of ammonium carbonate* as emetic. Repeat if necessary in 15 minutes.
2. *Keep patient lying down.*
3. *Inject subcutaneously 20 minims of tincture of digitalis well mixed with 40 minims of brandy (repeat in an hour if necessary); or 1 oz. of brandy in 1 oz. water by the bowel.*
4. *Apply mustard plaster to heart and bottles to feet and flanks.*
5. *Strong coffee or tea by mouth or bowel.*
6. *Nitrite of amyl* inhalations.
7. *Artificial respiration* (20 respirations a minute).

AK (Uck). (See CALOTROPIS GIGANTEA.)

ALCOHOL.

SYMPTOMS.

1. Tottering gait. Unable to stand or walk. Vacant look.
2. Flushed face (but often pale).
3. *Breath and vomit have alcoholic smell.*
4. Pupils usually dilated and fixed (but may be contracted).
5. Skin perspiring.

TREATMENT.

1. **STOMACH-TUBE**; or inject 1/10th gr. tabloid apomorph. hydrochl. in water.
2. Give a pint of hot strong coffee by stomach-tube.
3. Pour cold water freely over head at intervals. (If collapsed, do not employ this too freely.)
4. Inhalations of ammonia or ammonium carbonate freely.
5. If patient very drowsy, try to rouse him by pinching and flicking with wet cloth. Make him walk about, if possible.
6. Inject three minims of injectio strychninæ nitratis hypodermica (1—100); or tabloid hypodermic strychnin. nitrat. gr. 1/15th in water. Repeat in half an hour if necessary.
7. Artificial respiration may be required.

ALKALIES (Caustic Potash, Soda, or Lime).

SYMPTOMS.

1. Tongue and mouth mucous membrane raw and burnt.
2. Severe burning pain from mouth to stomach.
3. Vomiting—shreds of tissue and altered blood vomited.
4. Purging with great pain.
5. Shock-symptoms.

TREATMENT.

Do NOT use stomach-pump.

1. Give large quantities of water well acidified with acetic acid (vinegar) or lime-juice.
2. Then give large quantities of milk, white of egg and water or olive oil; or infusions of *til*, *tisi*, or *isphagul*.
4. Inject 8 minims of inject. morphin. hypod. (B.P.) or 1 drachm, by the bowel, of laudanum.

AMMONIA.

SYMPTOMS.

1. Suffocative cough and great struggle for breath. Breath smells of ammonia.
2. Mouth and lips red, swollen, and with detached epithelium; and much salivation.
3. Vomiting.
4. Pale, drawn face.
5. Shock-symptoms.

TREATMENT.

As for ALKALIES (Caustic), *which see*. Inhale chloroform for spasm of larynx, if dyspnoea is very severe. Laryngotomy even may be required.

ANILINE.

SYMPTOMS.

1. Nausea and vomiting.
2. Drowsy.
3. Cold, clammy skin.
4. Gasping for breath.

TREATMENT.

1. Fresh air.
2. Half an ounce of brandy in water by mouth; *or*, if vomited inject 30 minims of ether and 15 minims of tincture of digitalis (B.P.), WELL MIXED; *or* give 20 minims of tincture of digitalis mixed with 1 oz. of brandy by mouth.
3. Artificial respiration.

ANTIFEBRIN (Acetanilide).

SYMPTOMS.

1. Faintness.
2. Vomiting and purging.
3. Weak, thready pulse.
4. Breathing becomes hurried and, later, difficult.
5. Skin somewhat blue and sweating.
6. Trembling and even convulsions.

TREATMENT.

1. Tablespoonful of mustard in water, and then make patient drink tepid water freely.
2. Keep patient lying down.
3. Inject brandy (1 drachm) hypodermically; *or*, if possible, give 1 oz. in water by mouth or bowel.
4. Blankets and hot bottles to feet and flanks.

ANTIMONY (Tartar Emetic). Vern. *Surma* (antimony trisulphide).

SYMPTOMS.

1. Burning pain from mouth to stomach.
2. Violent vomiting and purging as a rule.
3. Cramps in limbs.
4. Cold, clammy skin and very feeble pulse. Collapse.
(No suppression of urine, as in arsenic poisoning.)

TREATMENT.

1. STOMACH-TUBE (cautiously) and, after emptying stomach, wash out several times with tannic acid solution (2 drachms to 1 pint water).
2. Later, milk, white of egg, or arrowroot; or infusions of *tisi* or *til*; or *conjee* and *milk*.
3. For collapse, (a) hot bottles to feet and flanks; (b) put plenty of blankets or *razais* over patient; (c) inject eight minims of inject. morphinæ hypoderm. (B.P.); or give 1 drachm, by the bowel, in water; (d) an ounce of brandy in warm water, or as an enema.

ANTIPYRIN (Phenazone.) (See ANTIFEBRIN.)

ARGENTI NITRAS. (See SILVER SALTS.)

ARSENIC. *Phatkya somul*, *Somul khar* or *Sankhya* ("white arsenic"); *Hurtal* (orpiment or yellow sulphide); *Munseel* or *Sandaracha* (realgar, red sulphide).

SYMPTOMS.

Ordinary type—

1. Generally in 20–60 minutes after administration, dryness and heat in throat and burning pain in stomach.
2. Vomiting (which does not relieve pain or nausea), often of blood-stained matter and much mucus.
3. Later, purging (often watery and choleraic; again often blood-stained matter), with much straining. (Purging may not occur.)
4. Cramps in legs and belly.
5. Symptoms of shock. Conjunctivæ very red; silvery furred tongue.

Nervous type (rare)—

Tingling or burning all over body; collapse; torpor; loss of power in limbs; convulsions; coma. No vomiting or purging.

Death from shock when large doses are taken.

TREATMENT.

1. STOMACH-TUBE; or inject seven minims of tabloid apomorph. hydroch. 1/10th gr. in water.
2. Give repeated *one ounce doses* of DIALYSED IRON.
3. Then give *demulcents*, such as *white of egg* and water; *olive oil* ($\frac{1}{4}$ pint with $\frac{3}{4}$ pint water); *milk*; "*conjee*" and *milk*; *infusion of "til" seeds* or of "*tisi*" or of *isphagula seeds*.
4. Inject 30 minims of *ether* (or of brandy) subcutaneously; or 1 oz. brandy and 1 oz. water by the bowel.
5. Apply *hot bottles* or hot bricks to feet and flanks. Keep covered well.
6. Later, inject 7 to 10 minims (according to severity of pain) of *inject. morphin. hypoderm.* (B.P.); or 60 minims of laudanum by the bowel.
7. Apply *poultices* to belly.
8. For suppression of urine, cup over kidneys and, later, give hot baths, etc.

ATROPINE or BELLADONNA or DATURA. *Safed dhatura*, or *Kala dhatura* (Hind.); *Umattai* (Tamil).

SYMPTOMS.

1. Mouth, hot and dry; great thirst; difficulty in swallowing. Restlessness.
2. *Flushed face. Pupils widely dilated and fixed.* Double sight.
3. Becomes unconscious. *Noisy, merry*, or (especially with datura) *muttering delirium*. Picking at bed-clothes. Hallucinations.
4. *Pulse, rapid and feeble. Feverish.* Respiration, hurried and laboured.
5. Skin, hot and dry—occasionally a scarlet rash.
6. Urine may be suppressed.
7. Stupor may pass off and delirium may again set in later.

In Datura cases especially, itching and burning come on rapidly over whole body, to relieve which patient often throws off clothes. Vomiting and purging occur not infrequently.

TREATMENT.

1. STOMACH-TUBE; or *thirty grains of zinc sulphate* in hot water; or one tablespoonful of mustard in half a pint of water, followed by copious draughts of tepid water.
2. Inject subcutaneously a tabloid of PILOCARPIN nitrat. hypod. gr. $\frac{1}{2}$ dissolved in water; or (if no pilocarpin at hand) 8 minims of injectio morphin. hypod. (B.P.). Repeat if necessary; or give by mouth or inject by the bowel 40 minims of laudanum in 1 oz. of water.
3. *Brandy* (tablespoonful) in water by mouth; or 30 minims subcutaneously.
4. Pint of hot coffee by mouth or rectum.
5. *Artificial respiration.*
6. *Draw off urine by catheter*, if retention present. Cup over loins and give hot baths for suppression of urine.
7. Alternate hot and cold douche; rouse by flicking with wet cloth and applying mustard to calves of legs.

BARIUM SALTS.

SYMPTOMS.

1. Severe abdominal pain.
2. Vomiting and purging.
3. Small, feeble pulse.
4. Short, difficult breathing.
5. May have cramps, paralysis, convulsions, collapse.

TREATMENT.

1. STOMACH-TUBE; *or* give a tablespoonful of mustard in $\frac{1}{2}$ pint of water.
2. Give one ounce of sodium sulphate along with 30 minims acid sulphuric dil., freely diluted. Repeat twice or thrice if necessary.
3. Brandy (tablespoonful) in water as necessary; and hot bottles to feet and flanks.
4. Inject 10 minims of inject. morph. hypod. (B.P.) if pain very severe; *or* give 40 minims of laudanum by the mouth.

BENZOLINE. (*See* PETROLEUM.)

BITES OF MAD ANIMALS. (*See* MAD ANIMALS, BITES OF.)

CALOTROPIS GIGANTEA or
PROCERA. *Ak, Madâr (Udu);*
Akanda (Bengali); Akra, Rin (Bomb.);
Erukku, Erukkam (Tamil).

SYMPTOMS.

1. Mouth and lips blistered.
 2. Vomiting.
 3. Purging.
 4. Severe pain in abdomen.
- (Is used for infanticide, suicide, homicide, and as abortifacient.)

TREATMENT.

1. Give a tablespoonful of mustard in water (one teaspoonful to an infant).
2. Hot fomentations to the abdomen.
3. Castor oil.
4. If a state of collapse exists, cover with blankets, place hot bottles to legs and sides, and give brandy and water by the mouth.

CAMPHOR. *Kafur (Hind.); Karpur (Bengali);*
Karuppuram (Tamil); Kapur (Bomb.).

SYMPTOMS.

1. BREATH SMELLS OF CAMPHOR.
2. Faintness, flushed face, dilated pupils.
3. Delirium and (in children particularly) convulsions.
4. Later, cold, clammy skin, and pulse rapid and weak.
5. Breathing difficult. No vomiting or purging, or pain in mouth or belly. Later, falls into long, deep sleep.

TREATMENT.

1. STOMACH-TUBE; or tablespoonful of mustard in water, and make patient drink tepid water freely.
2. Inject ether, 30 minims, subcutaneously (repeat if necessary, several times, at intervals of 20 minutes); or give a little ether to inhale.
(Do NOT give spirits by the mouth, as camphor is very soluble in alcohol.)
3. Blankets and hot-water bottles to feet and flanks.
4. Head may be douched with cold and hot water.

CANNABIS INDICA. (Indian hemp.) *Bhang, Charas, Sidhi, or Majun.*

SYMPTOMS.

1. Excitement, with laughing, singing, or hallucinations. Insensibility.
2. Tingling and numbness of skin.
3. Dilated pupils.
4. Slow, full pulse.
5. Giddiness and muscular weakness or loss of power.
6. Stupor passing into coma. (Vomiting and purging may occur.)

TREATMENT.

1. **STOMACH-TUBE** or a tablespoonful of mustard in $\frac{1}{2}$ pint of water, followed by drinking much tepid water.
2. *Pour cold water freely over head* from time to time.
3. If drowsy or insensible, *rouse* by pinching and flicking with wet towel; walk patient about.
4. *Artificial respiration* for several hours (20 respirations a minute).

CANTHARIDES.

SYMPTOMS.

1. Burning pain in throat and stomach and much salivation.
2. Vomiting of much mucus and blood, and with, perhaps, glittering particles of the poison.
3. Purging (mucus and blood).
4. *Constant desire to pass urine, but only small quantities, mixed with blood, passed.*
5. High fever.
6. Great abdominal pain. (Peritonitis may develop in the course of 24 or 36 hours after administration).
7. Coma and convulsions.

TREATMENT.

1. Inject tabloid of 1/10th gr. apomorphine hydrochloride; *or* STOMACH-TUBE.
2. Give freely white of egg and water, gruel, arrowroot, *or tisi, til or isphagul* infusions.
Do NOT give oil.
3. Inject 8 minims of inject. morph. hypoderm. (B.P.); *or* 1 drachm laudanum by the bowel.
4. Hot applications to abdomen.
5. Cup over kidneys, and, later, hot baths may be given.

CARBOLIC ACID. (Phenol.)

SYMPTOMS.

1. Lips and mouth white and shrivelled. *Breath smells of carbolic acid.*
2. Immediate intense burning sensation from mouth to stomach. Vomiting.
3. Skin cold and clammy.
4. Pupils contracted.
5. Speedy insensibility, with snoring breathing.
6. Urine becomes greenish or brownish-black. May be suppressed.
7. Patient may appear to improve for some hours, and then suddenly collapses and dies.

TREATMENT.

1. GIVE BRANDY or WHISKY or RECTIFIED SPIRIT IN WATER, FIRST—3 ozs with same amount of water.
2. STOMACH-TUBE (with much caution); or inject 1/10th gr. tabloid apomorph. hydroch. in water.
3. *If stomach-tube has been used*, wash out stomach freely with *magnesium sulphate* ($\frac{1}{2}$ oz to 1 pint of water) and leave a quantity of this fluid in the stomach. *If stomach-tube has not been used*, give $\frac{1}{2}$ oz. of *magnes. sulph.* in a tumblerful of water.
4. Give *white of egg and milk very freely.*
5. Hot bottles to feet and flanks, and plenty of covering.
6. Nitrite of amyl inhalations.

CARBON MONOXIDE GAS (Charcoal Fumes.) *Water-gas poisoning is due to this. (See CARBONIC ACID GAS.)*

CARBONIC ACID GAS.

SYMPTOMS.

1. Drowsiness, giddy.
2. Loss of power to stand.
3. Insensibility later.
4. Heart beats very violently.
5. Breathing, rapid. Tends to pass into coma.

TREATMENT.

1. Fresh air in abundance.
2. Artificial respiration, with intermittent traction on tongue (20 times a minute).
3. Inhale ammonia.
4. Cold douche to head.
5. Inject 30 minims of ether hypodermically (and repeat several times at intervals of 20 minutes) or brandy, 1 oz., in water by mouth or bowel. (Oxygen inhalation, where available, is very useful.)

CERBERA THEVETIA (T. *nerifolia*) or **yellow Oleander**. *Pila Kaner* (Urdu and Bom.); *Tiruvach-chip-pu* (Tamil); *Kolkaphul* (Bengali). (See DIGITALIS.)

CHLORAL.

SYMPTOMS.

1. Deep sleep, with (generally) flushed face.
2. Breathing slow—sighing or snoring.
3. Skin very cold.
4. Pupils contracted during sleep, but dilate when patient is roused.

TREATMENT.

1. STOMACH-TUBE, and continue washing out for 20 minutes with hot water; *or* inject tabloid 1/10th gr. apomorph. hydrochlor. in water.
2. Blankets, hot bottles to feet and flanks, and vigorous friction of body and limbs.
3. Rouse by pinching, shouting, flicking with wet towel, mustard plaster to calves of legs, inhalations of ammonia.
4. Inject tabloid of gr. 1/10th strychnin. nitr. hypodermic in water; *or* 3 minims of injectio strychnin. nitr. hypodermica (1—100). Repeat in half an hour, if necessary.
5. Artificial respiration later, if any sign of failure.

CHLORINE GAS.

SYMPTOMS.

1. Difficulty in breathing and swallowing.
2. Persistent cough.

TREATMENT.

1. Fresh air.
2. Inhalation of chloroform alternately with *very weak* ammonia.
3. Boil a kettle of water and hold it about a foot distant, and make patient inhale steam.

CHLOROFORM BY INHALATION.

SYMPTOMS.

Respiratory type—

- (a) Breathing may stop suddenly; or
- (b) May become shallow, slow, and irregular or "crowing," and patient becomes livid. This may be due to *falling back of tongue, or to foreign body lodging in larynx* (false teeth, sweetmeats in children, piece of sponge, gag or instrument in mouth-operations).

Cardiac type—

- (a) Veins distended. Spasms may occur (often this condition is relieved by removing the towel or inhaler and allowing patient to breathe fresh air).
- (b) Syncope—turns very pale; pulse small and irregular; pupils dilated.

TREATMENT.

1. Press jaw well forward and turn head sideways.
2. Draw tongue out FULLY about 20 times a minute.
3. See that mouth is clear, and that all clothing is loosened about the chest.
4. ARTIFICIAL RESPIRATION (20 a minute).
5. Give several smart slaps over the heart.
6. Make patient inhale some ether sprinkled on a cloth.
7. Lower patient until head touches the ground for a moment, and then raise again to former position. Repeat if necessary.
8. Amyl nitrite inhalations.
9. Inject 1/15th gr. of strychnine nitrate hypodermically.

CHLOROFORM WHEN SWALLOWED.

SYMPTOMS.

1. Breath smells of it.
2. Burning pain from mouth to stomach.
3. Cold skin.
4. Vomiting.
5. Dilated pupils generally.
6. Insensibility later, with snoring breathing and almost imperceptible pulse.

TREATMENT.

1. STOMACH-TUBE; *or* 1/10th gr. tabloid apomorph. hydrochl. in water.
2. Give freely CARBONATE of sodium solution (90 grains to the pint).
3. If becoming unconscious, rouse by pinching, flicking with wet cloth, mustard over heart and to calves of legs.
4. Artificial respiration, if necessary.
5. Amyl nitrite inhalations, and inject 1/15th gr. strychnine nitrate hypodermically.

CINNABAR. (See MERCURY.)

COAL GAS.

SYMPTOMS.

1. Headache.
2. Faintness and, later, insensibility.
3. Dilated pupils.
4. Heavy breathing.
5. Convulsions and coma.

TREATMENT.

1. Plenty of fresh air.
2. Ammonia inhalation.
3. Artificial respiration.
4. Alternate hot and cold douche to head.

COCAINE.

SYMPTOMS.

1. Dryness of mouth and throat, and difficulty in swallowing.
2. Giddiness and faintness.
3. Fever.
4. Pulse weak and rapid.
5. Excitement followed by depression.
6. Numbness (preceded by hyperæsthesia).
7. Pupils dilated and eyes staring.
8. Cold, clammy skin.
9. Convulsions and paralysis.

TREATMENT.

If given hypodermically—

1. Tablespoonful of brandy in hot water. Repeat as necessary.
2. Keep patient lying down.
3. Inhalations of amyl nitrite.
4. Inject tabloid 1/10th gr. strychnin. nitrat. hypod. in water; or four minims of inject. strychnin. nitrat. hypodermica (1—100). Repeat in about half an hour.

If taken by mouth—

Wash out stomach thoroughly in addition to above directions.

• COLCHICUM.

SYMPTOMS.

1. Burning pain in stomach and great thirst.
2. Violent vomiting and purging (stools contain blood).
3. Cold, clammy skin, with rapid, weak, irregular pulse.
4. Dilated pupils.
5. Pains in legs and arms in many cases.
6. Muscular twitchings.
7. Breathing slow and difficult. (Urine often suppressed).

TREATMENT.

1. STOMACH-TUBE and, after emptying stomach, pass in a pint of water containing 1 drachm of tannic acid. (If no tannic acid, use very strong *boiled* tea instead.)
2. White of egg, milk, *conjee* and milk, or arrowroot, freely.
3. If collapse, brandy; or 1 drachm of spt. ammon. aromat. ("*sal volatile*") every half hour.
4. Relieve pain by injecting 10 minims of inject. morphin. hypoderm. (B.P.).

CONIUM (Hemlock). *Keerdamana* (Bomb.).

SYMPTOMS.

1. Loss of power in legs and arms and, later, of all voluntary power.
2. Fixed and dilated pupils.
3. Cannot swallow or see.
4. Unconsciousness; delirium.
5. Respiratory muscles are last of all paralysed and asphyxia results.

TREATMENT.

1. **STOMACH-TUBE**; or a tablespoonful of mustard in $\frac{1}{2}$ pint of water, and make patient then drink tepid water freely.
2. Tannic acid (or strong boiled tea) to be given, *and then stomach again to be washed out.*
3. Massage surface of body.
4. Brandy ($\frac{1}{2}$ ounce); or spt. ammon. aromat. (1 drachm) repeatedly.
5. Keep patient warm with hot bottles, *razais*, etc.
6. *Artificial respiration continued for several hours.*

COPPER, SALTS OF.

SYMPTOMS.

1. Metallic taste and great thirst.
2. Pain from mouth to stomach; also colicky pains in belly.
3. Vomiting and purging.
4. Breathing, quick and difficult.
5. Pulse, small and rapid.
6. Skin, cold and clammy.
7. Severe headache and exhaustion. (May have suppression of urine.)

TREATMENT.

1. **STOMACH-TUBE**; or inject $\frac{1}{10}$ th gr. tabloid apomorph. hydrochl. unless vomiting freely.
2. White of egg and water, milk, or arrowroot, *freely.*
3. Inject 10 minims of inject. morphin. hypodermic (B.P.); or 40 minims of laudanum by mouth.

CORROSIVE SUBLIMATE. (*See* MERCURY.)

CREASOTE. (*See* CARBOLIC ACID.)

CROTON OIL. *Jaypal* (Bengali); *Jamalgota* (Hind. and Bom.); *Nervalam* (Tamil).

SYMPTOMS.

1. Vomiting, purging (watery stools), and colic.
2. Cold, clammy skin, and small, rapid pulse.

TREATMENT.

1. STOMACH-TUBE.
2. White of egg, milk, and arrowroot.
3. Brandy (tablespoonful) every half hour by the mouth; *or* spt. ammon. aromat. in doses of 1 drachm.
4. Inject 10 minims of inject. morph. hypoderm. (B.P.); *or* 40 minims of laudanum by mouth. If vomited, repeat dose in a few minutes.
5. Hot fomentations to belly.
6. Give 10 minims of spt. camphoræ every quarter of an hour *till six doses have been given.*

DATURA. (*See* ATROPINE.)

DIGITALIS.

SYMPTOMS.

1. Vomiting (often grass-green colour).
2. Purging with much griping.
3. Pulse slow, small, irregular and infrequent.
4. Dilated, fixed pupils.
5. Skin pale, cold, and moist.
6. Urine suppressed.
7. Headache and drowsiness, followed by delirium, convulsions, and coma.
8. Death may occur very suddenly.

TREATMENT.

1. STOMACH-PUMP; *or* a tablespoonful of mustard in water, and then make patient drink tepid water freely.
2. *Keep patient lying down.*
3. Later, give $\frac{1}{2}$ oz. of brandy; *or* spt. ammon. aromat. in 1-drachm doses.
4. Strong tea or coffee.
(Doses of five minims of tincture of aconite have been recommended, and might be repeated in 10 minutes if heart's action has improved.)

ERGOT.

SYMPTOMS (often slight).

1. Vomiting and purging.
2. Cramps in limbs and chest.
3. Pupils dilated.
4. Marked salivation.
5. Pulse small.
6. Giddiness and faintness.

TREATMENT.

1. STOMACH-PUMP; *or* a tablespoonful of mustard in water, and then make patient drink tepid water freely.
2. *Keep patient lying down.*
3. Give $\frac{1}{2}$ oz. of brandy in water; *or* spt. ammon. aromat. in 1-drachm doses.
4. Strong tea or coffee.
5. Nitrite of amyl, inhaled, least toxic.

EUPHORBIA. *E. Tirucalli* is *Lunkasij* (Beng.); *Thornival* (Bomb.); *Kalli* (Tamil).

[Vern. *Far-flyun* is dried juice of *E. resinifera*. *Thobar* (Hind.), *Manasasij* (Beng.), *Mingut* (Bomb.). *Ilaik Kalli* (Tamil) is *Nerii folia*.]

SYMPTOMS.

1. Vomiting and purging.
2. Irregular small pulse.
3. Giddiness and convulsions.
4. Narcotic symptoms.
5. Blisters the skin.

TREATMENT.

1. STOMACH-PUMP (very carefully); or a tablespoonful of mustard, and then make patient drink tepid water freely.
2. Milk, white of egg and water; conjee and milk; or arrowroot freely.
3. Brandy, if collapse occurs, in tablespoonful doses.
4. Later, give a purgative (1 oz. of castor oil).

EXALGIN.

SYMPTOMS.

1. Profuse salivation.
2. Vomiting.
3. Numbness and tingling of hands and feet.
4. Great breathlessness.
5. "Feeling of alternate expansion and contraction of head."

TREATMENT.

1. Tablespoonful of mustard in water, and then make patient drink tepid water freely.
2. Give $\frac{1}{2}$ oz. of brandy in water; or spt. ammon. aromatic in drachm doses freely.
3. Hypodermically give tabloid of $\frac{1}{10}$ th grain strychnin. nitrat, or 4 minims of injectio strychninae nitr. hypod. (1—100).
(A mouth-wash of potassium chlorate 1 drachm to

FOOD, POISONOUS. Tinned fish (salmon, lobster, oysters, anchovies, sardines, etc.); ham or pork; tongue (tinned); veal or pork-pie, brawn, cheese, etc.

SYMPTOMS.

1. Uneasiness in the stomach.
2. Numbness of hands and feet.
3. Hot, dry, tight feeling in throat.
4. Shivering and fever with severe headache and thirst.
5. Cramps in legs and abdomen.
6. Vomiting and purging (stools often extremely offensive).
7. Great prostration with cold, perspiring skin.
8. Muscular twitchings.
9. Pupils may be widely dilated and eyes much congested.
10. Stupor, often passing into coma.

TREATMENT.

1. If vomiting is not free, give a tablespoonful of mustard in half a pint of water, followed by the drinking of tepid water freely; or use the STOMACH-TUBE.
2. Then give 1 oz. of castor oil.
3. Then (later, as required) $\frac{1}{2}$ oz. of brandy; or spt. ammon. aromat. in drachm doses in hot water.
4. Hot bottles to feet and flanks. Plenty of bed clothes.

GASOLINE. (See PETROLEUM.)

GELSEMIUM or GELSEMINUM.

SYMPTOMS.

1. First headache and giddiness.
2. Sight becomes dim; double vision also occurs.
3. Vomiting.
4. Often unable to swallow or speak.
5. Cannot open eyes properly (ptosis).
6. Unable to walk straight and stagger.
7. Great distress in breathing and suffocating spasms

TREATMENT.

1. If seen soon after the poison has been taken, STOMACH-TURE; or a tablespoonful of mustard in water, and make patient drink tepid water freely.
2. Give $\frac{1}{2}$ oz. of brandy in hot water or spt. ammon. aromat. in drachm doses. Repeat as required.
3. Inject hypodermically tabloid of 1/60th gr. atropine sulphate or 2 minims of injectio atropine hypod. (strength, 4 grs. to 1 oz.); or give 30 minims of tincture of belladonna.
4. Alternately douche the chest and head with hot and cold water.
5. Artificial respiration for several hours.

GLASS, POWDERED.

SYMPTOMS.

1. Patient generally notices roughness and grittiness at time of swallowing.
2. Vomiting and purging.
3. Severe abdominal pain.
4. May go on to collapse.

TREATMENT.

1. AT ONCE give *very freely* thick arrowroot, gruel or corn flour, white of egg in water, or olive oil ($\frac{1}{4}$ pint to $\frac{3}{4}$ pint of water); or *til*, *tisi*, or *isphagul* infusions.
2. Then give a tablespoonful of mustard in water, and make patient drink tepid water freely.
3. Later, after free vomiting has occurred, give 1 oz. of castor oil.
4. If collapse, give brandy ($\frac{1}{2}$ oz. in warm water); or spt. ammon. aromat. in drachm doses at

HYDROCYANIC ACID (Prussic Acid) or A CYANIDE.

SYMPTOMS (*almost immediate.*)

1. Insensibility.
 2. Eyes glassy, fixed, pupils much dilated.
 3. Convulsions.
 4. Skin—cold and clammy.
 5. Face—bluish colour.
 6. Gasps for breath.
 7. Vomiting and spasmodic purging may occur.
 8. Complete collapse ; muscular paralysis ; slow snoring breathing ; pulseless.
- (Death may occur within two or three minutes of onset of symptoms.)

TREATMENT.

NO TIME FOR EMETIC OR STOMACH-TUBE.

1. Throw a pailful of *cold* water over head and shoulders. Then follow by a pailful of *hot* water. Repeat these several times.
2. ARTIFICIAL RESPIRATION AT ONCE (20 respirations a minute).
3. AMMONIA TO BE GIVEN TO INHALE PROMPTLY.
4. Inject $\frac{1}{2}$ drachm ether subcutaneously.

IODINE or IODIDES.

SYMPTOMS.

1. Hot sensation and pain in gullet and stomach.
2. Vomiting (yellow or blue vomit) and purging (often bloody stools).
3. Great thirst.
4. Faintness, and may have convulsions.

TREATMENT.

1. STOMACH-TUBE, or a tablespoonful of mustard in water, and make patient drink tepid water freely.
2. Give freely starch and water (if iodine) ; or white of egg in water ; or barley water or arrowroot, or *tisi*, *til* or *isphagul* infusions.
3. Nitrite of amylinhalations.
4. Inject 8 minims of inject. morph. hypodermic (B. P.) ; or give 40 minims of laudanum by mouth when vomiting lessens. Repeat in few minutes, if vomited.

KANER or KARABL (See **NERIUM**
ODORUM.)

KEROSENE. (See **PETROLEUM.**)

LAUGHING GAS. (See **CHLOROFORM,**
INHALED.)

LEAD, ACUTE POISONING BY.

SYMPTOMS.

1. Metallic taste.
2. Much thirst.
3. Pain in belly, relieved by pressure.
4. Abdominal walls rigid ; cramps ; and paralysis of legs.
5. *Constipation.*

TREATMENT.

1. **STOMACH-TUBE** ; or a tablespoonful of mustard in water, and then make patient drink tepid water freely.
2. Half ounce of magnesium sulphate in water. Repeat in half an hour.
3. White of egg and water ; gruel ; arrowroot ; barley water or *tisi, til* or *isphagul* infusions.
4. To relieve pain, hot applications to belly and later inject 8 minims of inject. morphin. hypodermic (H. P.) ; or give 40 minims of laudanum by mouth. (Follow this treatment, in a day's time, by a course of potass. iodid.)

LOBELIA. (Vern. *Deonal, Bokenal, Dharal.*)

SYMPTOMS.

1. Violent vomiting.
2. Great prostration.
3. Giddiness and tremors.
4. Insensibility and convulsions.

TREATMENT.

KEEP PATIENT LYING DOWN.

1. *Emetics rarely needed, but, if vomiting has not been free, give a tablespoonful of mustard in $\frac{1}{2}$ pint of water; or use the stomach-tube.*
2. Give 30 grains of tannic acid in water repeatedly; or strong *boiled* tea freely.
3. Brandy ($\frac{1}{2}$ oz. in warm water); or spt. ammon. aromat. in drachm doses.
4. Inject tabloid of gr. 1/10th strychnine nitrate in water, or 4 minims of inject. strych. nitratis hypoderm. (1—100).
5. Hot bottles to flanks and feet, and cover with *razais*, blankets, &c.

MAD ANIMALS, BITES OF.—(Dogs, jackals, cats, wolves, and, more rarely, foxes, cows, horses.)

Signs of Rabies in a dog—

Generally more timid than usual at first. Coat rough and often smeared with mud or dust from rolling. Later bad-tempered and restless. Bark becomes hoarse and muffled. Swallows with difficulty. Runs about with sticky saliva dropping from its mouth. Bites at anything in its way. [There is also a paralytic form of the disease in which the animal's jaws, loins and hind legs are paralysed.]

When in doubt as to whether a dog is rabid or not, tie it up in a room by itself. If rabid, it will be dead within eight days.

Treatment of the bite—

Cauterise the bite well with *pure carbolic acid* or strong nitric acid. (Nitrate of Silver—"lunar caustic"—is useless for this purpose.) If neither of these acids is at hand, cauterise the bite with a hot iron at a black heat. Send the bitten person to the Pasteur Institute, Kasauli, at once—if possible, on the day he is bitten.

MADAR. (See CALOTROPIS.)

MERCURY. *Talachiknasumbul* (Hind.); *Darachikna* (corrosive sublimate); *Hingool*, *Hingula* (Marathi); *Rasa Sindura* or *Shingarf* (cinnabar or vermillion); *Rus-Kapoor* (calomel); and *Rasa* or *Para* (quicksilver).

SYMPTOMS.

1. Pain and feeling of constriction in mouth and stomach.
2. Vomiting (mucus and blood).
3. Violent purging (blood-stained motions).
4. *Pulse*—small, rapid, and irregular.
5. *Skin*—cold and clammy.
6. May have suppression of urine and convulsions.

TREATMENT.

1. **STOMACH-TUBE** (*very cautiously in corrosive sublimate cases*); or 1/10th gr. tabloid apomorph. hydrochl. in water. [*In corrosive sublimate cases give emetic after (2).*]
2. *Very freely, white of egg* in water; *milk* (if not available, give flour and water.)
3. Later, inject ten minims of inject. morphin. hypoderm. (B.P.).
4. Continue to give milk and lime-water (equal parts) freely.
5. Tablespoonful of brandy in water as required.
6. If urine suppressed, give hot baths and cup over the loins.

MORPHIA. (See OPIUM.)

MUSHROOMS.

SYMPTOMS.

1. Vomiting and purging.
2. Severe colic.
3. Pulse slow.
4. Excitement followed by insensibility with stertorous (snoring) breathing and dilated pupils.
5. Body cold and clammy.

TREATMENT.

1. STOMACH-TUBE; or a tablespoonful of mustard in water, and make patient drink tepid water freely.
2. Inject 2 minims of injectio atropinæ hypodermic (grs. iv to 1 oz.) or a tabloid of 1/60th gr. atropin. sulph. hypoderm. and repeat, if necessary, in half an hour. Or give 30 minims of tincture of belladonna. Repeat in ½ hour.
3. Keep in lying-down position.
4. Hot applications to the belly.
5. Brandy (½ oz. in water) or spt. ammon. aromat. (drachm doses).
6. Give 1 oz. of castor oil.

NERIUM ODORUM. [*Kaner* (Hind. and Bomb.); *Karabi* (Beng.); *Alari* (Tamil).]

For Symptoms and Treatment see *Digitalis*.

NICOTINE.

SYMPTOMS.

1. Vomiting and collapse-symptoms.
2. Pupils at first contracted, later dilated.

TREATMENT.

1. STOMACH-TUBE; *or* a tablespoonful of mustard in water, and make patient drink tepid water freely.
2. Inject a tabloid of gr $\frac{1}{100}$ th of strychnine nitrate in water or 4 minims of injection of nitrate of strychnia (1—100). *Or* give 5 minims of liquor strychninæ (B. P.) when vomiting lessens. Repeat, if necessary.
3. *Keep patient lying down.*
4. Strong coffee or tea freely.
5. Half ounce of brandy in water or spt. ammon. aromat. in drachm doses.
6. Blankets and hot bottles to flanks and feet.

NITRITES and NITRO-GLYCERINE.

SYMPTOMS.

1. Giddiness and faintness.
2. Cyanosis.
3. Throbbing sensation all over body.
4. Vomiting.

TREATMENT.

1. A tablespoonful of mustard in water, and make patient drink tepid water freely.
2. *Plenty of fresh air.*
3. *Keep patient lying down.*
4. Inject a tabloid of ergotine (1 grain) in water; *or* give one drachm of extract. ergot. liquid by mouth.
5. Brandy ($\frac{1}{2}$ oz. in water); *or* spt. ammon. aromat. in drachm doses—by mouth.

NITROUS OXIDE GAS. (*See* CHLORO-
FORM, INHALED.)

NUX VOMICA. (*See* STRYCHNIA.)

OLEANDERS (*Cerbera Thevetia* and *C.*
Odallum; and *Nerium Odorum*.)

Cerbera—

Pila Kaner (Hind.); *Kolka-phul* (Bengali);
Tiruvach-chip-pu (Tamil).

Nerium—

Kaner (Hind.); *Karabi* (Bengali); *Alari*
(Tamil).

SYMPTOMS.

1. Great pain in stomach.
2. Violent vomiting.
3. Twitchings and convulsions.
4. *Pulse*—slow, weak, thready, compressible.
5. Collapse.

TREATMENT.

1. STOMACH-PUMP; or, if vomiting delayed, inject 1/10th gr. tabloid apomorph. hydrochlorid. in water.
2. KEEP PATIENT LYING DOWN.
3. Brandy (tablespoonful in water) by mouth; or drachm doses of spt. ammon. aromat. (Inject a drachm of brandy subcutaneously; or 1 oz. by the bowel if patient is unable to swallow.)
4. Strong coffee or tea. (A dose of 5 minims of tincture of aconite has been recommended, and might be repeated in ten minutes if heart's

OPIUM. *Afim* or *Aflyum* (Hind.).**SYMPTOMS.**

(Preliminary stage of excitement may be absent or very brief.)

1. Face flushed or of bluish colour.
2. Pupils generally strongly contracted, but dilate towards the end.

If chlorodyne has been taken, pupils are often widely dilated (from prussic acid or atropine in chlorodyne).

3. Skin, hot and dry, later becoming moist.
4. Breathing, deep and snoring.
5. Patient may appear unconscious, but can generally be roused in earlier stages.

Later, deep unconsciousness, from which patient cannot be roused. Slow, shallow breathing, with long intervals between breaths. The slow, full pulse changes to a rapid and feeble one. Skin becomes cold and very moist. Face, pale or bluish.

(In worst cases, lower jaw drops; pupils dilate; muscles, flabby and relaxed; feeble pulse; paralysis of sphincters.)

(In children, collapse may very rapidly set in.)

TREATMENT.

1. **STOMACH-TUBE** (or in mild cases in children, 1 tablespoonful of mustard in tumblerful of warm water).
2. *Wash out stomach with permanganate of potassium (10 grains to each pint of water) till fluid comes back unchanged in colour. Before withdrawing the tube, give a pint of hot strong coffee or tea by it.*
3. *Unless patient is quite collapsed, walk him up and down; flick chest and legs with wet towel; pinch; shout at him.*
4. Hold ammonia to his nose; and give a tablespoonful of brandy in water. Repeat as needed.
5. Pour jugs of cold and hot water *alternately* over head and shoulders.
6. Inject subcutaneously 1/15 gr. strychnine nitrate (tabloid) mixed with two minims of injectio. atropinae sulphatis hypoderm. (or 1 tabloid hypoderm. strychnine nitrate).

OXALIC ACID or OXALATES.

SYMPTOMS.

(Symptoms come on very rapidly.)

1. Mouth, white and painful.
2. Pain and burning in throat and stomach.
3. Cramps in legs.
4. Vomiting of dark fluid.
5. Purging (blood in motions).
6. Pulse almost imperceptible.
7. Shock (symptoms).
8. Coma and convulsions.

(Death may occur in from 10—60 minutes after administration.)

TREATMENT.

Do NOT use stomach-tube or emetic.

1. Give chalk mixed up in milk; or lime-water *very freely*.
2. Give white of egg and milk or olive oil freely.
3. Later, give 1 ounce of castor oil.
(*Do not give sodium, potassium, or ammonium salts.*)
4. Treat collapse by injecting 30 minims of ether; hot bottles to feet and flanks; mustard plasters to heart and calves of legs, etc.

PARAFFINE OIL or KEROSENE or PETROLEUM.

SYMPTOMS (VERY VARIABLE).

1. Burning in mouth, throat and stomach; great thirst. *Breath and vomit smells of petroleum.*
2. Vomiting and purging—vomit and fæces oily.
3. Shock-symptoms—cold skin, feeble pulse and respiration, etc.
4. Insensibility.
5. *May die very suddenly.*

TREATMENT.

1. STOMACH-TUBE; and wash out thoroughly; or a tablespoonful of mustard in water, and make patient drink tepid water freely.
2. Later, brandy (1 oz. in water) or ant. cyan.

PARALDEHYDE.

SYMPTOMS.

1. Breath and urine smell of the drug.
2. Breathlessness.
3. Pupils fixed and contracted.
4. Unconsciousness.
5. Skin warm and quick pulse.

TREATMENT. (*See CHLORAL.*)

PHENACETIN. (*See ANTIFEBRIN AND ANTIPYRIN.*)

PHOSPHORUS.

SYMPTOMS.

1. Breath smells of garlic. Intense thirst.
2. Severe abdominal pain (in gastric and hepatic regions mostly).
3. Vomiting (vomit may be luminous when examined in a dark room).
4. Pulse weak and thready.
5. Delirium and coma may follow.
6. Urine scanty (and albuminous).
7. May become jaundiced, and there is tendency for hæmorrhages to occur from nose, under skin, and in vomit and motions.

TREATMENT.

1. STOMACH-TUBE; or *give 5 grains of copper sulphate every five minutes till vomiting occurs.*
2. After free vomiting has occurred, give 1 grain of copper sulphate every 15 minutes till 10 doses have been given.
(If vomited, give it with 30 minims of laudanum.)
3. *Do NOT give any oils or fats.*
4. Later, give one ounce of magnesium sulphate in water.
5. Give *white of egg in water* freely.

PILOCARPINE.

SYMPTOMS.

1. Redness of skin and profuse sweating.
2. Mouth and eyes water freely.
3. Vomiting and purging.
4. Pupils contracted and double vision.
5. Pulse weak and rapid.
6. Pain in region of heart and abdominal cramps.
7. Bronchial secretion and urine much increased.

TREATMENT.

1. Give a tablespoonful of mustard in water (if there is not free vomiting).
2. Inject tabloid of gr. 1/60th of atropine sulphate in water; *or* 2 minims of injectio atropinæ hypod. (grs. iv to 1 oz.); *or* give 30 minims of tincture of belladonna by the mouth.

PRUSSIC ACID. (*See HYDROCYANIC ACID.*)

PTOMAINES. (*See FOOD, POISONOUS.*)

RABIES. (*See MAD ANIMALS, BITES OF.*)

SILVER SALTS.

(Accidents with this occasionally result from cauterising a throat with stick lunar caustic.)

SYMPTOMS.

1. Burning pain in throat and stomach.
2. Vomiting of white flakes, which turn black later.
3. Abdominal pain and purging.
4. Collapse-symptoms may follow.

TREATMENT.

1. Give two tablespoonfuls of COMMON SALT in a tumblerful of milk or warm water. Repeat as often as necessary.
2. If no vomiting follows, inject a tabloid of gr. 1/10th of apomorphine hydrochloride in water; *or* use the stomach-tube *with great caution*.
3. Give freely white of egg and water-milk.

SNAKE-BITE.

I.—*Colubrine snakes*: Cobra (*naja tripudians*).
Krait (*Bangarus ceruleus*). Sankni (*B. Fascia-*
tus). Callophis of various kinds. Ophiophagus
elaps.

II.—*Sea snakes*: Hydrophis of various kinds; En-
hydrina Bengalensis; Pelamis bicolor.

III.—*Viperine snakes*: Trimeresurus of various kinds;
Halys Himalayanus; Russell's viper (*Daboia*
Russellii) (*Bora siah Chunder*); Echis carinata.

SYMPTOMS.

Local—

Pain, effusion of blood under the skin, swelling,
followed (if the acute symptoms are recovered
from) by cellulitis and sloughing.

General—

1. Faintness and, later, much prostration.
2. Nausea and vomiting.
3. Rapid (often deep) breathing.
4. Loss of power of co-ordination.
5. Paralysis of voluntary muscles and of sphincters.
6. Insensibility.
7. Coma and convulsions.

In viperine poisoning, there are much more extensive
and severe subcutaneous extravasations of blood
and swelling; and hæmorrhages, *e.g.*, bloody
evacuations from bowel, etc., also occur.

TREATMENT.

Local—

1. Apply several tight ligatures between the bite and
heart, where possible.
2. Immediately excise the bitten portion and apply
strong nitric acid freely to the wound or
cauterise wound with a hot iron at a black heat.
3. Inject subcutaneously in several places round about
the bite, *calcium hypochlorite* solution (1—60).
4. Wait a few minutes and then remove ligatures.

General—

(a) *If marked symptoms have set in* (not merely
collapse from fear), inject 35 cubic centimetres
of antivenene *into a vein*.

(Unless marked symptoms have set in, inject 20 to
30 c.c. subcutaneously.)

[continued on p. 46.]

SNAKE-BITE—concluded.

Antivenene is useless in viperine snake-bites. In sea-snakes' bites there is no reliable evidence up to the present for or against the use of antivenene, but meanwhile antivenene may be employed, as above directed, on the chance of its also proving useful in sea-snakes' bites.

- (b) Give brandy, $\frac{1}{2}$ oz., in warm water by mouth (or one drachm subcutaneously); or spirit ammon. aromatic (*sal volatile*) in drachm doses, repeated at intervals.
- (c) Artificial respiration.
- (d) Hot bottles to feet and flanks; and keep patient warm by blankets or *razais*.

STRAMONIUM. (See ATROPINE.)

STRYCHNINE. *Kuchilla* (Hind.); *Ettikkotai* (Tamil); *Kajra* (Bomb.).

SYMPTOMS.

1. Immediate very bitter taste, which is very lasting.
2. Feeling of suffocation and difficult breathing.
3. Trembling and jerking of head and body, then whole body stiffens; eyes, very prominent; pupils, dilated; pulse, rapid and feeble; cyanosis from interference with respiration.
4. When convulsion ceases, *complete relaxation of muscles follows* (distinction from tetanus). In fatal cases, death occurs in half to one hour [generally.

TREATMENT.

1. *When convulsions have set in, stomach-tube cannot possibly be used. If convulsions have not set in, use stomach-tube or give thirty grains of zinc sulphate as emetic.*
2. If convulsions have not set in, give *animal charcoal* or *tannic acid* (2 drachms to 1 pint of water) *very freely*.
3. Then give 30 grains *chloral hydrate* and 2 drachms of *potass. bromid.* in 2 ounces of water by bowel or mouth.
4. For convulsions, GIVE CHLOROFORM BY INHALATION FREELY.
5. Keep room dark, absolutely quiet, and touch patient as little as possible.

SULPHONAL.

SYMPTOMS.

1. Unable to stand or walk straight.
2. Giddiness and headache.
3. Noises in ears.
4. Insensibility.
5. May have profuse sweating, and urine may be suppressed.

TREATMENT.

1. STOMACH-TUBE; or tablespoonful of mustard in $\frac{1}{2}$ pint of water, and make patient drink tepid water freely.
2. Inject subcutaneously a tabloid of gr. $\frac{1}{10}$ th of strychnine nitrate or 5 minims of injectio strychninæ nitrat. hypod. (1—100); or give by mouth 5 minims of liquor strychninæ (B. P.). Repeat as necessary.
3. Strong coffee or tea freely.
4. If urine suppressed, cup over kidneys and apply hot bottles to feet and flanks, and cover with plenty of bed clothes.

TOBACCO. (See NICOTINE.)

TURPENTINE.

SYMPTOMS.

1. Breath smells of it, and urine has violet-like odour.
2. Intoxication.
3. Insensibility with snoring breathing, contracted pupils, and convulsions.
4. Bladder irritability and even suppression of urine.

TREATMENT.

1. STOMACH-TUBE; or inject $\frac{1}{10}$ th gr. tabloid of apomorphine hydrochloride in water.
2. Give 1 oz. of magnesium sulphate in water.
3. Give white of egg in water; milk; gruel; arrow-root; or *tíl* or *tisí* infusions very freely.
4. Inject 8 minims of inject. morph. hypodermic (B. P.) if severe pain.
5. For suppression of urine, cup over kidneys, hot baths, and hot water to drink.

WHEN THE POISON IS UNKNOWN, treat thus:—

1. Use STOMACH-TUBE (unless corrosive poison, shown by corrosion of lips and mouth).
2. Give white of egg and water; olive oil, $\frac{1}{4}$ pint to 1 pint water; milk; conjee and milk; linseed (*tisi*) or sisamum (*til*) infusion; or *isphagul* infusion.
3. *For collapse*, inject 30 minims of ether or a drachm of brandy hypodermically; or give a tablespoonful of brandy in water by mouth or bowel. Hot bottles. Warmth. Mustard over heart and to calves of legs.
4. Artificial respiration, if indicated.
5. For pain, inject 7 minims of inject. morphin. hypoderm. (B. P.); or give $\frac{1}{2}$ drachm laudanum by mouth or 40 minims by the bowel.
6. Lastly, give an ounce of castor oil (unless the poison is a corrosive or violent irritant).

VERATRINE.

SYMPTOMS.

1. Burning feeling in throat and stomach. Abdominal pain.
2. Vomiting and purging.
3. Headache and faintness.
4. Pulse, weak and slow.
5. Breathing difficult.
6. Pupils generally dilated.
7. Spasmodic twitchings of muscles may occur, even convulsions.

TREATMENT.

1. STOMACH-TUBE; or give a tablespoonful of mustard in $\frac{1}{2}$ a pint of water, and then make patient drink tepid water freely.
2. *Keep patient lying down.*
3. Give (in water) $\frac{1}{2}$ oz. of brandy; or spt. ammon. aromat. (drachm doses).
4. Strong coffee or tea.
5. Hot bottles to feet and flanks; and keep well covered.

YEW. (Vern. "*Talis-patar.*")

SYMPTOMS.

1. Vomiting and abdominal pain.
2. Insensibility and convulsions.
3. Pulse, small, weak, and irregular.
4. Respiration slow and laborious.
5. Much prostration.
6. Very pale and skin cold.

TREATMENT.

1. STOMACH-TUBE; or a tablespoonful of mustard in $\frac{1}{4}$ a pint of water, and make patient drink tepid water freely.
2. Later, brandy ($\frac{1}{2}$ oz.) or spt. ammon. aromat. (drachm doses) in water, as required.
3. Artificial respiration (if necessary).

ZINC. Generally as chloride (as in Burnett's disinfecting fluid) or as sulphate (white vitriol).

SYMPTOMS.

1. Lips and mouth corroded.
2. Intense pain in throat and stomach.
3. Vomiting (blood-stained vomit) and purging.
4. Breathlessness.
5. Rapid small pulse.
6. Pupils dilated.
7. Cramps followed by paralysis.
8. Collapse and coma.

TREATMENT.

1. Give freely magnesia or sodium carbonate (*not bicarbonate*)—40 grains dissolved in a pint of warm water.
2. White of egg in water; milk; barley water; gruel; or *til*, *tisi* or *isphagul* infusions.
3. Strong boiled tea or coffee.
4. Inject 7 to 10 minims of injectio morphin. hypodermic (B.P.); or give 40 minims of laudanum when vomiting lessens. If vomited, repeat dose in few minutes.
5. Hot applications to abdomen.

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